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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/716,073	11/17/2003	Gary H. Bray	02-3703 [370024-00031]	4789

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EXAMINER

MORILLO, JANEL COMBS

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 01/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/716,073

Applicant(s)

BRAY ET AL.

Examiner

Janelle Combs-Morillo

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-- Th MAILING DATE of this communication appears on the cov r sheet with th correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 061004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shahani et al (US 6,027,582).

Independent claims 1, 5, 9

Shahani teaches a rolled, forged, or extruded aluminum alloy >60 mm thick (column 12 line 31) suitable for structural elements of aircraft comprising (in weight%): 5.7-8.7% Zn, 1.7-2.5% Mg, 1.2-2.2% Cu, <0.14% Fe, <0.11% Si, 0.05-0.15% Zr, balance aluminum (column 3 lines 38-51), which overlaps the instant ranges of Zn, Mg, Cu, Fe, Si, and Zr. Shahani does not teach any examples within the instant claim ranges, however, Shahani does a substantially overlapping alloy composition, as stated above. With respect to the evidence in the instant specification that low Si and Fe values lead to improved fatigue failure, etc., the examiner points out that Shahani teaches low Si and Fe, within the instant limits, of 0.04% Si and 0.09% Fe in the example on Table 2. Shahani teaches that the instant alloy results in high mechanical strength and toughness as well as “good fatigue behavior” without any harmful effect on stress corrosion resistance.

Because the prior art teaches a substantially overlapping alloy composition with “good fatigue behavior” (column 3 line 35), it is held to be within the scope of the alloy of Shahani to exhibit “improved fatigue failure resistance”, substantially as presently claimed.

It would have been obvious to one of ordinary skill in the art to select any portion of the range, including the claimed range, from the broader range disclosed in the prior art, because the prior art finds that said composition in the entire disclosed range has a suitable utility.

Overlapping ranges have been held to be a prima facie case of obviousness, see MPEP § 2144.05.

Dependent claims 2-4, 6-8, 10

Concerning dependent claims 2 and 3, as stated above, Shahani teaches an overlapping alloy composition.

Concerning dependent claims 4 and 6, Shahani teaches a rolled, forged, or extruded aluminum alloy (column 12 line 30).

Dependent claim 7 mentions the limitation “plate suitable for use as an upper wing member”, which is held to define merely an intended use for the alloy composition. Because the prior art teaches an alloy used for structural aerospace plates, said alloy appears to be capable of performing said intended use as recited in the preamble. See, e.g., *In re Schreiber*, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997), MPEP 2111.02.

Concerning dependent claim 8, Shahani teaches said alloy is solution heat treated and artificially aged (see abstract).

Concerning dependent claim 10, because the prior art teaches a substantially overlapping alloy composition with “good fatigue behavior” (column 3 line 35), then one of ordinary skill in

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the art would expect the alloy of Shahani to exhibit “improved fatigue failure resistance relative to a 7055 product”, substantially as presently claimed. The examiner asserts that where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). “When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.” *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

3. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shahani et al (US 6,027,582) in view of Kuhlman et al (US 5,277,719).

As stated above, Shahani teaches a substantially overlapping alloy composition, with overlapping ranges of Zn, Mg, Cu, Fe, Si, and Zr. Shahani teaches that the instant alloy results in high mechanical strength and toughness as well as “good fatigue behavior” without any harmful effect on stress corrosion resistance. Shahani does not specify that the instant low Fe and Si ranges improve fatigue lifetimes.

However, Kuhlman teaches that low Fe and Si ranges, such as 0.01-0.05% Fe, and 0.01-0.03% Si (column 18 lines 57-58) improve fatigue lifetimes (column 2 lines 34-36) for Al-Zn-Cu-Mg forged alloys that overlap the ranges of the invention and Shahani. It would have been obvious to one of ordinary skill in the art to lower the Fe and Si ranges taught by Shahani to 0.01-0.05% Fe and 0.01-0.03% Si because Kuhlman teaches said Fe and Si ranges lead to improve fatigue lifetimes (column 2 lines 34-36) for Al-Zn-Cu-Mg alloys.

Response to Arguments

4. In the response filed on October 29, 2004, applicant submitted various arguments traversing the rejections of record.

Applicant's argument that the present invention is allowable over the prior art of record because the Cu range taught by Shahani only slightly overlaps the presently claimed Cu range has not been found persuasive. It would have been obvious to one of ordinary skill in the art to select any portion of the range, including the claimed range, from the broader range disclosed in the prior art, because the prior art finds that said composition in the entire disclosed range has a suitable utility. See MPEP § 2144.05.

With respect to the evidence in the instant specification that low Si and Fe values lead to improved fatigue failure, etc., the examiner points out that the combination of Shahani and Kuhlman teaches that low Si and Fe improve fatigue lifetimes, therefore said results are not (necessarily) unexpected.

Applicant's argument that the present invention is allowable over the prior art of record because it is unclear if applicants have compared the instant invention to the closest prior art. The examiner has cited the closest prior art to be Shahani US 6,027,582, however, the results in the instant specification compare the instant invention with 7055 (represented by Hunt, Jr. et al US 5,221,377 ?). Applicants may compare the claimed invention with prior art that is more closely related to the invention than the prior art relied upon by the examiner. In re Holladay, 584 F.2d 384, 199 USPQ 516 (CCPA 1978); Ex parte Humber, 217 USPQ 265 (Bd. App. 1961). Applicant has not provided evidence/arguments that 7055 is closer to the instant invention than the alloy taught by Shahani.

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Applicant's argument that the present invention is allowable over the prior art of record because Kuhlman is drawn to low Si and Fe contents only for forged products has not been found persuasive. The examiner agrees that Kuhlman does not teach a general rule that low Fe and Si lead to improved fatigue resistance, but Kuhlman does teach that the combination of low Fe and Si together with forging lead to improved fatigue resistance.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle Combs-Morillo whose telephone number is (571) 272-1240. The examiner can normally be reached on 8:30 am- 6:00 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JCM

January 7, 2005


GEORGE WYSZOMIERSKI
PRIMARY EXAMINER